

1 Claims

2
3 1. A force measuring device (1)

4 - with a single-piece housing made of metal, comprising an
5 upper rigid housing part (25) and a lower rigid housing part
6 (26), which are connected together by means of U-shaped
7 spring elements (21, 22, 23, 24) and which can be moved in
8 relation to each other in an elastic manner along a movement
9 axis (60) by the action of a force, with the spring elements
10 (21, 22, 23, 24) being disposed symmetrically to each other
11 parallel to the movement axis (60) in relation to a sectional
12 plane (AA), and

13 - with a deflection sensor (6) between the upper and lower
14 rigid housing parts (25, 26) to detect their relative
15 movement in relation to each other,
16 characterized in that the housing (2) is manufactured using
17 Metal Injection Molding (MIM) technology.

18
19 2. The force measuring device (1) as claimed in claim 1,
20 characterized in that the two arms of the spring elements
21 (21, 22, 23, 24) each enclose an acute angle (α).
2223 3. The force measuring device (1) as claimed in claim 1 or
24 2, characterized in that the wall thickness (d) of a spring
25 element (21, 22, 23, 24) first decreases from the upper rigid
26 housing part (25) and then increases again to the vertex of
27 the curved springs (21, 22, 23, 24).
2829 4. The force measuring device (1) as claimed in one of the
30 preceding claims, characterized in that the housing (2) has
31 at least four U-shaped spring elements (21, 22, 23, 24), two
32 spring elements (24, 21, 23, 22) respectively pointing in the

1 same direction, from the sectional plane (AA).

2

3 5. The force measuring device (1) as claimed in claim 4,
4 characterized in that the lower rigid housing part (26) has a
5 securing lug (4) between two curved springs (21, 24, 22, 23)
6 pointing in the same direction from the sectional plane (AA),
7 with which lugs the force measuring device (1) can be
8 connected rigidly to the vehicle chassis with the aid of
9 suitable securing means (7), in particular screws (7).

10

11